

# SoMachine configuration software

Catalog

January **2018**



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## SoMachine programming software

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# SoMachine Basic software

## Programming software for Modicon M221 and M221 Book logic controllers

### Compatibility of offers

#### SoMachine Basic programming software

- > Modicon M221 logic controllers
- > Modicon M221 Book logic controllers
- > Modicon TM3 expansion modules
- > Modicon TM2 expansion modules

### Presentation

SoMachine Basic programming software is a user-friendly tool designed to develop projects on Modicon M221 or Modicon M221 Book logic controllers. It can convert applications created on TwidoSuite and TwidoSoft.

- SoMachine Basic is organized according to the project development cycle: navigation of the software is easy and intuitive.
- SoMachine Basic offers a modern interface, so that getting started is:
  - User-friendly and fast: the simplified interface helps you find the information you need in two or three clicks maximum
  - Efficient, due to the functions available
- SoMachine Basic creates an operator interface for remote graphic display unit **TMH2GDB**.



SoMachine Basic software

### Connecting a PC to the controller

There are several ways of connecting a PC to Modicon M221 logic controllers during the programming, debugging, and maintenance phases.

#### ■ Link via connection cables

The PC is connected to the M221 controller via the USB-B port, using cable **TCSXCNAMUM3P** (mini-USB to USB).

#### ■ Link via modem or router

Modems can reduce the frequency of on-site visits for certain maintenance operations.

- The modem connected to the M221 logic controller must be declared in the hardware configuration. It will be initialized by the controller automatically (Hayes initialization string).
- At the PC end, the SoMachine Basic software will associate a special modem connection that will be memorized in the project (including the phone number to use).

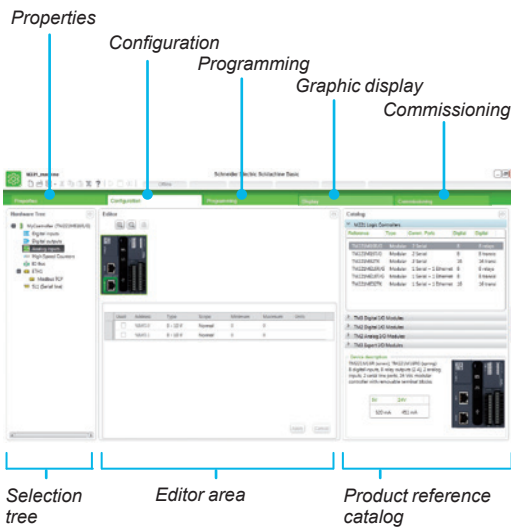
#### ■ Ethernet network link

With their embedded Ethernet port **TM221●●E●●** logic controllers can be connected to a PC using the Ethernet network and the Modbus TCP/IP protocol.

#### ■ Bluetooth® wireless link

The Bluetooth® wireless link enables complete freedom of movement within a 10 m/ 33 ft radius around the controller.

Schneider Electric offers Bluetooth® wireless adapters both for the controller side and the PC side. Please consult our website: [www.schneider-electric.com](http://www.schneider-electric.com).



## Functions

### Navigation

SoMachine Basic offers intuitive and visual navigation.

- The presentation is optimized for selecting the development cycle stage of the project (Properties, Configuration, Programming, Display, Commissioning).
- Each screen is divided into 3 zones:
  - A selection tree
  - An editor area: a streamlined workspace to carry out what is necessary and relevant to the current task, without any superfluous information
  - A product reference catalog organized by range

### Project management

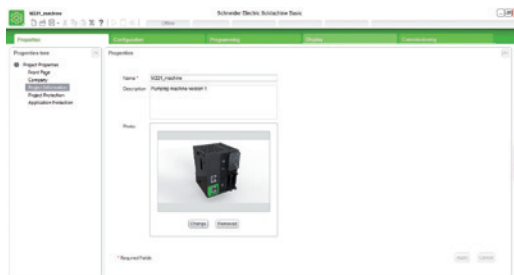
The project management function is used to:

- Create a new project
- Open a project from the PC (hard disk, CD-ROM, USB flash drive, etc.)
- Retrieve a project from an M221 logic controller
- Open a Twido project, with automatic conversion
- Create a new project based on an existing project template
- Print a project

### Properties

Screens enabling entry of identification data for a new project, such as:

- Details of the project creator
- Details of their company
- Information relating to the project
- Project protection information
- Application protection information



Properties

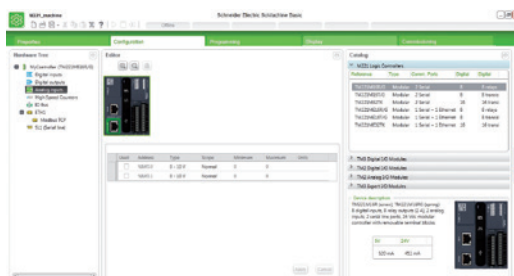
### Configuration

Configuration allows:

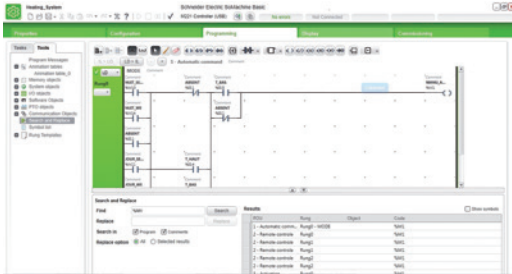
- Creation of the hardware configuration corresponding to the application by selecting the following from a "catalog":
  - The logic controller (Modicon M221)
  - The I/O expansion modules (Modicon TM2, Modicon TM3)
  - The standard and application cartridges

A graphic editor enables easy assembly of the various elements using simple drag & drop.

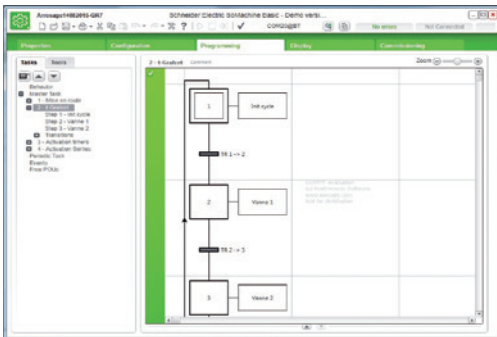
- Configuration of all the hardware functions selected for the application:
  - Discrete, analog I/O
  - High speed counter (HSC) inputs
  - High speed outputs:
    - Pulse width modulation (PWM)
    - Pulse generator (PLS)
    - Pulse train output (PTO)
    - Frequency generator
  - Communication ports (Ethernet, serial links):
    - Ethernet: EtherNet/IP, Modbus TCP client and server, Exchange table
    - Serial links: Modbus RTU or ASCII, ASCII protocol, Display
    - The Modbus Serial IOScanner and Modbus TCP IOScanner protocols are used to automatically configure an Altivar variable speed drive, other Schneider device, or a generic device.



Configuration



Programming



Grafcet graphic language



Display

### Functions

#### Programming

- The program is organized in POU (program organization units) or sections. These sections consist of rungs (networks) to simplify both reading and navigation within the program.
- The POUs are associated with various tasks of the application: master, periodic, events. They can be programmed in:
  - Instruction List (IL) language
  - Ladder (LD) language
  - Grafcet graphic language
  - Structured Text (ST) operations
  - User-defined functions
  - User-defined function blocks
- Rungs define all the connectable elements in the application.

#### Ladder editor

- The Ladder editor provides intuitive and high-performance programming:
  - Drag & drop operation
  - Undo/Redo function
  - Choice of keyboard shortcuts and toolbar according to the user profile
  - Easy connection of Ladder elements using the “Pencil” and “Rubber” tools
  - Assistance with connection of Ladder elements when creating rungs
  - Easy linking of variables to the Ladder elements
  - Context-sensitive online help
  - Instruction search and syntax wizard
  - Project backup, even if the Ladder networks are not complete
  - Automatic analysis and compilation
- Modification online and in Run mode (this mode allows the connected controller program to be modified)
- Animation tables
- Search and replace function with Trace function

#### Grafcet graphic language

Grafcet (Command Step-Transition Functional Graphic) is the French acronym for “**GRA**phe **F**onctionnel de **C**ommande **E**tape-**T**ransition”. Grafcet has been standardized under the classification index NF C 03-190. The corresponding European standard is EN 60848.

Grafcet language is based on a graphic representation that is easy to understand:

- Step: The step represents a partial system state, in which an action has been performed. The step can be active or inactive. The associated action is executed when the step is active, and remains dormant when the step is inactive.
- Transition: This links one or more previous steps to one or more subsequent steps. It describes a change of state.

Two conditions are monitored while moving to the next step:

- Each step preceding the transition must be active (and the actions must have been executed).
- The Boolean condition associated with the transition is “True”.

#### Structured Text operations

Structured Text operations allow Structured Text applications to be easily converted:

- Conditional elements
- Loop elements
- Complex calculation in an operation block

#### User-defined functions

A user-defined function allows you to create new functions with one or more input parameters, local variables, and a return value.

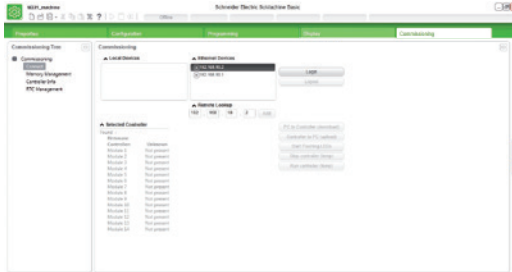
#### User-defined function blocks

A user-defined function block allows you to create new function blocks with one or more input and output parameters, local variables, and a return value.

#### Display

- Configuration of the remote graphic display
- Configuration of the Alarm list
- Creation and configuration of an operator interface from predefined pages (menu, monitor, control, bar graph, gage)





Commissioning

### Functions

#### Commissioning

Tasks that are available and can be carried out during application commissioning:

- Connection:
  - Automatic discovery of the controller connected to the PC, according to the type of connection port: USB, Ethernet, Bluetooth®
  - Transfer of application between PC and logic controller
- Firmware update of the logic controllers
- Comparison of the application on the controller with that on the PC
- Backup and restoration of all PLC data: memory area and SD card management
- Information about the PLC (logic controller)
- Real-time clock management

#### Counting

SoMachine Basic offers high speed counting software functions for Modicon M221 logic controllers (2 dual-phase counters or 4 single-phase counters).

- High speed counting (HSC)
 

The counter is accessed via the 32-bit function block %HSCi. It is programmed for execution of one of the following functions:

  - Up/Down counter
  - Bi-phase up/down counter
  - Frequency meter

The pulses to be counted can come from an incremental encoder or proximity sensors (up/down counting) connected to inputs I0 and I1 of the M221 logic controller.

- Fast counting (FC)
 

The 16-bit %FCi fast counter enables up or down counting of pulses (rising edge) on the fast inputs of the M221 logic controller.

#### PTO

18 function blocks are used to manage the fast outputs (PTO) as outputs of the following type:

- Speed
- Position
- S-curve profile
- Execution of a points table (multi-segment)

The PTO function enables position control by pulse train - pulse/direction (P/D) or CW/CCW signals, depending on the type of servo drive.

These pulses are generated on outputs %Q0.0 and %Q0.1 of M221 logic controllers (1).

#### Altivar variable speed drives

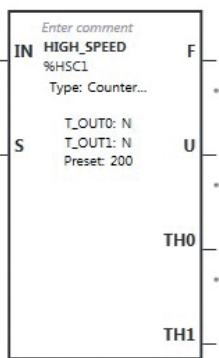
There are 7 function blocks available for controlling the following on Altivar variable speed drives:

- Power
- Speed
- Jog
- Status

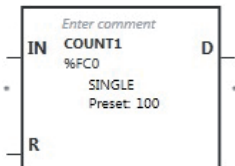
#### Communication

There are 4 function blocks available to facilitate communication:

- Modbus serial link
- Modbus Ethernet link
- Exchanging messages over serial link
- Sending and receiving SMS messages



High speed counting (HSC)



Fast counting (FC)



Altivar variable speed drives

(1) On TM221C●40U logic controllers, up to 4 outputs support the function (PLS, PWM, frequency generator, or PTO).

### Functions

#### Position control

SoMachine Basic provides 3 positioning software functions for the Modicon M221 logic controllers used, for example, for stepper motor control.

##### ■ PLS function

The PLS function block generates pulses of fixed ratio. In some cases, the frequency can be fixed and in others it is variable (as in control of slopes when driving a stepper motor). The %PLS function block can be programmed to generate a specific number of pulses.

The %PLS function blocks are assigned to the %Q0.0 or %Q0.1 outputs of M221 logic controllers (1).

The pulse generator signal has a variable period, but with a constant duty cycle that establishes an ON to OFF ratio of 50% of the period.

##### ■ PWM function

The PWM function block generates pulses of fixed frequency, with a variable ON to OFF ratio for the output signal. The ON to OFF duration ratio is a dynamic variable called %PWM.R, with a range from 1% to 100%.

The PWM function blocks are assigned to the %Q0.0 or %Q0.1 outputs of M221 logic controllers (1).

The %PWM function block, defined by the user, generates a signal on output %Q0.0 or %Q0.1 of M221 logic controllers.

##### ■ Frequency generator function (FREQGEN)

The frequency generator function generates a square wave signal on the outputs of M221 logic controllers (1) with a fixed duty cycle (50%).

The frequency can be configured from 0.1 Hz to 100 kHz with intervals of 0.1 Hz.

#### Event processing

Event management by the application.

- Source types:
  - Events on embedded inputs
  - Threshold events on the high speed counter (HSC)
  - Periodic event (Timer)
- Each event executes a single subroutine.

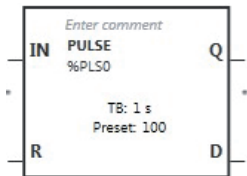
#### Process control (PID)

- 14 PID programming loops
- Auto-tuning algorithm
- Analog/PWM output
- Linear conversion of measurement input
- 2 alarm levels (high and low) on the measurement
- Control output limits
- Direct and reverse action

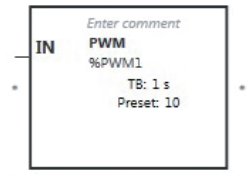
#### Data logging

A new function block with data logging assistant for configuration can be used to:

- Create an historic data record
  - Create an events log
- Save and restore a batch of memory words by:
- Using %S and %SW (same logic as in flash memory)



PLS function

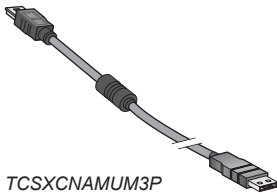


PWM function





SoMachine Basic software



TCSXCNAMUM3P

## References

### SoMachine Basic software

- SoMachine Basic software runs on the following configurations:
- Microsoft Windows® 7 Professional Edition 32-bit and 64-bit, Microsoft Windows® 8 Professional Edition 32-bit and 64-bit, Microsoft Windows® 8.1 32-bit and 64-bit, Microsoft Windows® 10
- 1 GHz Premium processor, 1 GB hard disk, and 1 GB RAM minimum
- Recommended minimum screen resolution of 1280 x 800 pixels
- The software is available on our website [www.schneider-electric.com](http://www.schneider-electric.com). Updates are offered when the PC is connected to the Internet.

Description	<ul style="list-style-type: none"> <li>■ Programming languages</li> <li>□ User languages</li> </ul>	Version	Reference Availability
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SoMachine Basic	<ul style="list-style-type: none"> <li>■ Instruction List (IL) language, Ladder (LD) language, Grafset graphic language</li> <li>□ Languages available: English, Czech, French, German, Italian, Japanese, Brazilian Portuguese, Simplified Chinese, Spanish, and Turkish</li> </ul>	V1.6	<b>Only available as a download from our website <a href="http://www.schneider-electric.com">www.schneider-electric.com</a></b>
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### Cable for connecting a PC to the M221 logic controller

Description	For use		Length	Reference	Weight kg/lb
	From	To			
Programming cable	Type A USB port on programming PC	Mini-B USB port on M221 and M221 Book logic controllers	3 m 9.84 ft	TCSXCNAMUM3P	0.065/ 0.143

### Link via modem or router

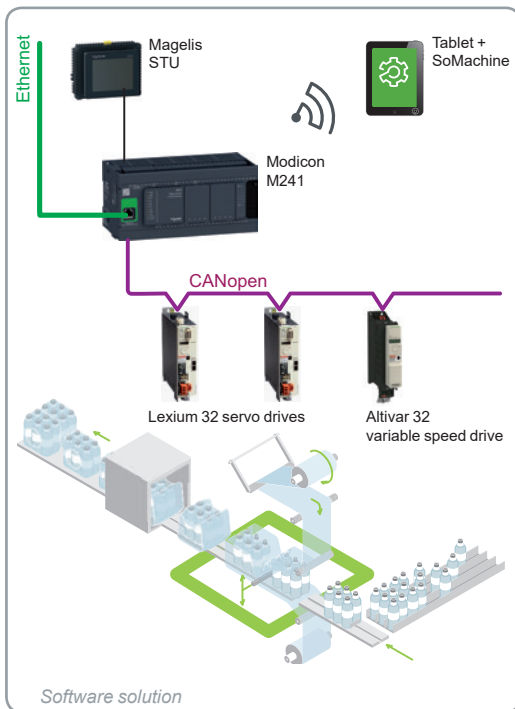
<b>Modem, VPN industrial router</b>	For remote access for Modicon M221 and Modicon M221 Book logic controllers; please consult our website <a href="http://www.schneider-electric.com">www.schneider-electric.com</a> .
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# SoMachine software

## Simplify machine programming and commissioning



SoMachine software platform



Software solution

### Presentation

SoMachine is the machine builder's solution software for developing, configuring, and commissioning the entire machine in a single software environment, including logic, motion control, HMI, and related network automation functions.

SoMachine allows you to program and commission all the elements in Schneider Electric's Flexible and Scalable Control Platform, the comprehensive solution-oriented offer for machine builders, which helps you achieve the optimum control solution for each machine's requirements.

#### The Flexible and Scalable Control Platforms offer includes:

- Controllers:
  - Modicon logic controllers: M238, M241, M251, M258
  - Modicon motion controllers: LMC058, LMC078
  - HMI controllers: Magelis SCU, XBTGC, XBTGT/GK
  - Drive controller: Altivar IMC
- I/O modules: Modicon TM2, Modicon TM3, Modicon TM5, and Modicon TM7 offers
- HMIs:
  - Magelis™ STO/STU Small Panels
  - Magelis™ GH/GK/GT Advanced Panels
  - Magelis™ GTO Optimum Advanced Panels
  - Magelis™ GTU Universal Panels

#### Scalability

- SoMachine allows flexible and scalable use of controllers in the SoMachine context: it is easy to integrate the M221 logic controllers from SoMachine Basic into a SoMachine project.
- The Flexible Control feature allows you to replace a controller with another one, while retaining the logic and the configuration. Several versions of SoMachine can run in parallel in a system to help ensure compatibility.

SoMachine is a professional, intuitive, and open software solution integrating Vijeo Designer. It also integrates the configuring and commissioning tool for motion control devices. It supports all the IEC 61131-3 languages, integrated fieldbus configurators, expert diagnostic and debugging functions, as well as multiple capabilities for maintenance and visualization including web visualization. SoMachine integrates tested, validated, documented, and supported expert application libraries dedicated to pumping, packaging, hoisting, and conveying applications.

SoMachine is a single software environment with:

- One software package
- One project file
- One connection
- One download operation

### Visual graphic user interface

Navigation within SoMachine is intuitive and highly visual. Presentation is optimized in such a way that selecting the development stage of the desired project makes the appropriate tools available. The user interface suggests the tasks to be performed throughout the project development cycle so that nothing is overlooked. The workspace has been streamlined, so only that which is necessary and relevant to the current task is featured, without any superfluous information.

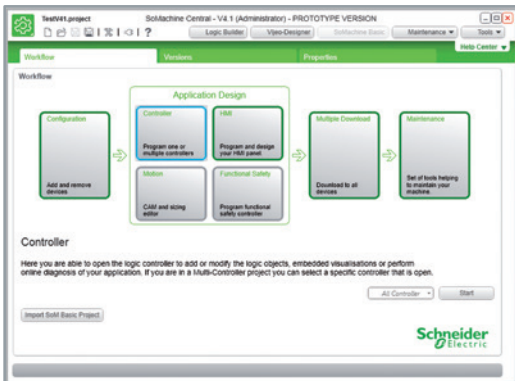
### Learning center

From the home menu, the learning center provides several tools to help you get started with SoMachine. An animated file explains the SoMachine interface and concept in brief. An e-learning section gives you the opportunity to teach yourself about SoMachine and its new features. A third section provides links to several documented examples of simple coding with SoMachine.

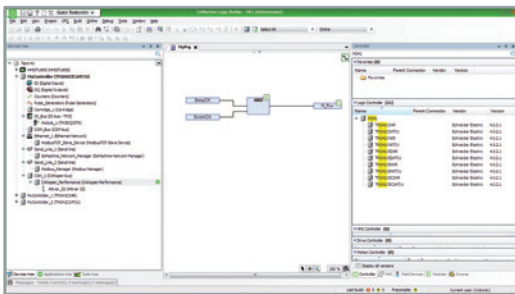
An intuitive and efficient online help is also available to answer your questions.

# SoMachine software

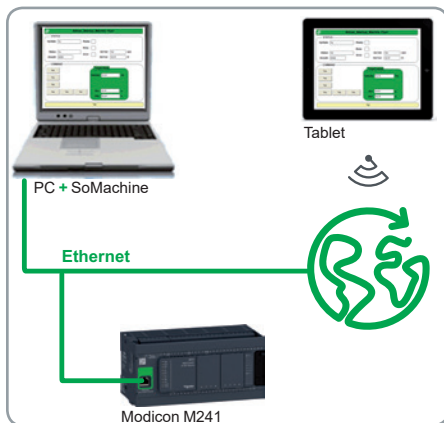
## Simplify machine programming and commissioning



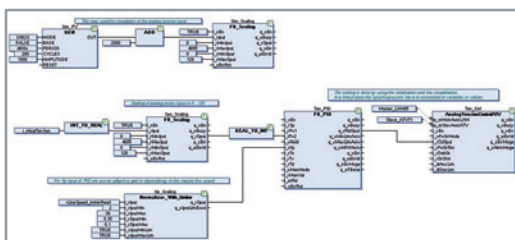
Project management



"Catalog"



Web visualization



Application function blocks

### Functions

#### Project management

The software's project management functionality lets you browse through existing projects quickly to gather the relevant information without needing to open each project individually.

There are several ways of creating a new project: using tested, validated, documented architectures (TVDA), using the examples provided, using an existing project, or starting with an empty project. There is quick access to the most recently used projects.

You can also create a project from a standard project taking advantage of a preconfigured program (task, library, etc.).

#### Project properties

You can define additional information for each project using simple forms. It is also possible to attach documents and custom or configuration pictures. The software also supports automatic versioning.

#### Configuration

The user interface allows you to configure devices and architectures in a hierarchical order.

The various elements of the configuration can be easily assembled by selecting from a device "catalog" (controllers, expansion modules, etc.) with a simple drag & drop.

The catalog can be searched and filtered as required.

Device templates are available to easily add preconfigured equipment.

#### Programming and debugging

Programming is an essential step, and the user has to carefully design it to be as efficient as possible. Advanced control and HMI functions cover all the needs of machine builders in terms of creating the control and visualization systems.

Powerful tools allow debugging and functional tests such as simulation, step-by-step execution, breakpoints, and traces.

#### Documentation

SoMachine allows you to customize and generate a project report for printing:

- Select the items to be included in the report
- Organize the sections
- Define the page layout
- Print the report

#### Transparency

SoMachine is an FDT (Field Device Tool) container and supports DTM (Device Type Manager) files.

SoMachine manages remote devices via DTM files, providing direct communication with each device.

Communication is transparent via SoMachine, the controller, and the fieldbus (Modbus serial link, Modbus TCP, CANopen, and EtherNet/IP).

SoMachine also supports FDT/DTM connections directly from the PC to the devices via Modbus serial link or Modbus TCP.

#### Application Function Block (AFB) libraries for dedicated solutions

SoMachine includes application function block libraries for selected machines. Their simple configuration speeds up design, commissioning, installation, and troubleshooting.

These libraries cover the following applications:

- Packaging
- Hoisting
- Handling
- Pumping
- Material working

#### Tested Validated Documented Architectures (TVDA)

SoMachine provides a variety of project examples and preset projects with ready-to-use architectures you can adapt to individual requirements. Some of them are generic TVDAs based on controller configurations. Others can be dedicated to specific solutions by application-oriented TVDAs.

You can find the TVDA that corresponds to your requirements using the

[System Solutions TVDA Selector](#) accessible at this address:

<http://industryproducts.schneider-electric.us/msxselector/index.html#tvda2>.

### SoMachine characteristics

#### IEC 61131-3 programming languages

- > IL (Instruction List)
- > LD (Ladder Diagram)
- > SFC (Sequential Function Chart)
- > ST (Structured Text)
- > FBD (Function Block Diagram) and CFC (Continuous Function Chart)

#### Controller programming services

- > Multi-tasking: Mast, Fast, Event
- > Functions (Func) and function blocks (FBs)
- > Data Unit Type (DUT)
- > Online changes
- > Watch windows
- > Graphical monitoring of variables (trace)
- > Breakpoints, step-by-step execution
- > Simulation
- > Visualization for application and machine setup
- > "ETEST" automated unit testing system to improve the quality of the application

#### HMI-based services

- > Graphics libraries containing more than 4,000 2D and 3D objects
- > Simple drawing objects (points, lines, rectangles, ellipses, etc.)
- > Preconfigured objects (button, switch, bargraph, etc.)
- > Recipes (32 groups of 256 recipes with max. 1,024 ingredients)
- > Action tables
- > Alarms
- > Printing
- > Java scripts
- > Multimedia file support: wav, png, jpg, emf, bmp
- > Variable trending

#### Motion services

- > Configuration and commissioning of embedded devices
- > CAM profile editor
- > Sample application trace
- > Motion and drive function block libraries for variable speed drives, servo drives, and stepper drives
- > Visualization screens
- > Logical encoder

#### Global services

- > User access and profile
- > Project documentation printing
- > Project comparison (control)
- > Variable sharing based on publish/subscribe mechanism
- > Library version management
- > Machine energy efficiency monitoring

#### Integrated fieldbus configurators

- > Control network
  - Modbus serial link, Modbus TCP, Modbus TCP I/O Scanner
- > Fieldbus
  - CANopen
  - Sercos III
- > CANopen protocols supported: J1939, CANmotion
- > Connectivity
  - Profibus-DP
  - EtherNet/IP
- > Web visualization
  - Display the SoMachine controller visualization screens in a web browser

### SoMachine characteristics (continued)

#### Connectivity services and networks

- > FTP Client library
  - To send or receive files to/from an FTP server. Some controllers also have an embedded FTP server.
- > SQL Client library
  - To read or write in the databases from the controller
- > Email library
  - To send and receive with attachments from the controller
- > SNMP Manager
  - To control or read information about SNMP devices on the network
- > TCP/UDP library
- > SNTP Client function blocks for synchronizing the clock with other systems
- > OPC UA Server embedded in the controller (M241, M251) (1)
  - For direct communication with OPC UA clients
- > Library for reading and writing XML (eXtended Markup Language) and CSV (comma-separated values) files
  - To simplify and standardize communication between the controller and external systems
- > PackML library

#### Expert and solutions libraries

- > PLCopen function blocks for motion control
  - Examples: MC\_MoveAbsolute, MC\_CamIn, ServoDrive, etc.
- > Packaging function blocks
  - Examples: analog film tension control, rotary knife, integration of PackML (Packaging Machine Language), etc.
- > Handling function blocks
  - Examples: tracking, turntable, conveyor, etc.
- > Hoisting functions
  - Hoisting function blocks: anti-sway, anti-crab, hoisting position synchronization, etc.
  - Application template for industrial crane
- > Pumping application
  - Pumping function blocks: cavitation protection, friction loss, PID, stage/destage functions, etc.
  - Application template for booster
- > Material processing application
  - Application templates
- > Material working
  - Rotary knife, flying shear, temperature monitoring, etc.
- > Energy efficiency library

#### Tools

- > Controller assistant
  - Manage the firmware and application without opening SoMachine
  - Create images and backup of the controller
- > Software configuration manager
  - Manage the installed versions and components of SoMachine
- > License manager
  - Activate and manage licenses for all Schneider Electric licensed products
  - Support registration and license transfer
- > Schneider Electric Software Update (SESU)
  - Online notification of all available updates and news about the installed Schneider Electric software products
  - Download and install updates, patches, and extensions from the web
- > Diagnostics (available on Modicon LMC078 motion controllers)
  - Be informed of the machine status, including save operations, device parameters, the state of the I/O, and a graphic view of the Sercos ring architecture

(1) OPC UA Server function enabled on request.

### Product offer

SoMachine software is supplied as a 21-day trial version on a USB flash drive. At the end of the trial period, a license is required to continue to use SoMachine.

- SoMachine is available in 8 languages: English, French, German, Italian, Portuguese, Simplified Chinese, Spanish, and Turkish
- Operating systems for engineering PC: Microsoft Windows® 7 Professional 32-bit/64-bit, Microsoft Windows® 8.1 Professional 32-bit/64-bit, Microsoft Windows® 10 Professional 32-bit/64-bit.
- Documentation is supplied in electronic format: complete online help with complementary documentation in pdf version

### References

#### SoMachine software

Description	Supported controllers	Reference	
		USB flash drive (1)	License (2) / Number and type
SoMachine software	<ul style="list-style-type: none"> <li>■ Logic controllers: Modicon M238, Modicon M241, Modicon M251, Modicon M258</li> <li>■ Motion controllers: Modicon LMC058, Modicon LMC078</li> <li>■ HMI controllers: Magelis SCU, XBTGC, XBTGT/GK</li> <li>■ Drive controller: Altivar IMC</li> </ul>	SOMNACS43 + trial license for V4.3 (21 days)	SOMNACCZSPAZZ 1 (Single)
			SOMNACCZTPAZZ 10 (Team)
			SOMNACCZKEPAZZ 100 (Entity)

#### Application libraries for SoMachine software

Description	Supported controllers	Reference
		License
Dedicated Hoisting application library	<ul style="list-style-type: none"> <li>■ Logic controllers: Modicon M238, Modicon M241, Modicon M251, Modicon M258</li> <li>■ Motion controllers: Modicon LMC058, Modicon LMC078</li> <li>■ HMI controllers: Magelis SCU, XBTGC, XBTGT/GK</li> <li>■ Drive controller: Altivar IMC</li> </ul>	SOMAAECZSPAZZ Single license
		SOMAAECZTPAZZ Team license

#### License for SQL gateway

The machine can access a database remotely and read or write data with SQL syntax: the controller configured with SoMachine has an integrated SQL Client for connecting to one or more databases via the SQL gateway.

The SQL gateway runs on Microsoft Windows and must be installed on the same network as the controller and the database, and is available in 8 languages: English, French, German, Italian, Portuguese, Simplified Chinese, Spanish, and Turkish

Description	Supported controllers	Reference License
License for a single SQL gateway for connecting one or more controllers to one or more databases	<ul style="list-style-type: none"> <li>■ Logic controllers: Modicon M241, Modicon M251, Modicon M258</li> <li>■ Motion controllers: Modicon LMC058, Modicon LMC078</li> </ul>	SOMSQLCZZSPMZZ Single license

(1) The USB flash drive is mandatory and supplied with a trial license.

(2) Registration of one of the 3 license types is mandatory.



## References

### License for ETEST Framework

SoMachine integrates ETEST, a powerful innovative tool for improving the IEC program quality of your projects and helping to avoid potential setbacks throughout the life cycle of the machine.

- The ETEST tool is used to program unit tests simply within a SoMachine project and to enhance the robustness of the application program.
- ETEST is available in 8 languages: English, French, German, Italian, Portuguese, Simplified Chinese, Spanish, and Turkish.

Description	Reference License
License to enable the ETEST tool for SoMachine (≥ V4.3)	<b>SOMETTCZZSPMZZ</b> Single license

### License updates (from version V3.0 or V3.1 to version V4.0 or later)

Supported controllers	SoMachine reference (V3.0/V3.1)	Reference for update to SoMachine V4.3
<ul style="list-style-type: none"> <li>■ Logic controllers: Modicon M238, Modicon M258</li> <li>■ Motion controllers: Modicon LMC058</li> <li>■ HMI controllers: Magelis SCU, Magelis XBTGC, Magelis XBTGT/GK</li> <li>■ Drive controller: Altivar IMC</li> </ul>	MSDCHNLMUA (Single)	<b>SOMNADCZXSPAZZ</b> Single license
	MSDCHNLMTA (Team)	<b>SOMNADCZXTPAZZ</b> Team license
	MSDCHNLMFA (Facility)	<b>SOMNADCZXEPAZZ</b> Entity license
<ul style="list-style-type: none"> <li>■ Controllers for the solution (S-type controllers)</li> </ul>	MSDCHLLMUV3●S0, MSDCHLLMTV3●S0	<b>SOMNSDCZXTPAZZ</b>

## SoMachine software compatibility with hardware control platforms

Controller type	SoMachine software version
<ul style="list-style-type: none"> <li>■ Modicon M238 logic controller</li> <li>■ Magelis XBTGC HMI controller</li> </ul>	≥ V1.0
<ul style="list-style-type: none"> <li>■ Modicon M258 logic controller</li> </ul>	≥ V2.0
<ul style="list-style-type: none"> <li>■ Modicon LMC058 motion controller</li> <li>■ Modicon TM5 and Modicon TM7 CANopen interfaces</li> <li>■ Altivar IMC drive controller</li> </ul>	≥ V3.0
<ul style="list-style-type: none"> <li>■ Magelis SCU HMI controller</li> </ul>	≥ V3.1 (and Vijeo Designer V6.1 SP3)
<ul style="list-style-type: none"> <li>■ Modicon M241 and Modicon M251 logic controllers</li> </ul>	≥ V4.1
<ul style="list-style-type: none"> <li>■ Modicon LMC078 motion controller</li> </ul>	≥ V4.1 (SP1)

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<b>S</b>	
SOMAAECZXSPAZZ	12
SOMAAECZXTPAZZ	12
SOMETTCZZSPMZZ	13
SOMNACCZXEPAZZ	12
SOMNACCZXSPAZZ	12
SOMNACCZXTPAZZ	12
SOMNACS43	12
SOMNADCZXEPAZZ	13
SOMNADCZXSPAZZ	13
SOMNADCZXTPAZZ	13
SOMNSDCZXTPAZZ	13
SOMSQLCZZSPMZZ	12

<b>T</b>	
TCSXCNAMUM3P	7

The Next Generation



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